

Impact of Educational Inputs and Teachers' Quality on Students' Academic Achievement in Public Senior Secondary Schools in Delta State, Nigeria

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ABSTRACT

This study which is supported by the system theory examines the extent to which provision and utilization of educational inputs relate to teachers' quality and students' academic achievement in Delta State Public Secondary Schools. The population of the study comprises teachers and students of senior secondary school class three (SS3) in public secondary schools in Delta State. Three null hypotheses were formulated to guide the study. The ex-post facto research method is used to study seventy one thousand and eleven (71, 011) students of SS3 who sat for the May/June 2011, 2012 and 2013 West African School Certificate Examination in the 25 Local Government Areas of Delta State. The State consists of fifty (50) public senior secondary schools out of which 500 teachers were selected for the study. The random sampling technique is used to select two secondary schools from each Local Government Area. A questionnaire entitled: "Educational Inputs and Teachers Quality on Students Academic Achievement Questionnaire – EITQSAAQ) is administered to respondents; and students WASCE results for Mathematics and English Language for the period are also analyzed. The hypotheses are tested using Z-test statistics at 0.05 level of significance. The simple percentage is used to analyze the data. The findings show that there were significant differences in educational inputs and teachers' quality, their years of experience on students' academic achievement in public secondary schools in Delta State. Based on the findings of this study, it is recommended, among others, that old students' association, philanthropists and well meaning individuals in the society should assist in the provision of essential educational inputs like libraries and computer laboratories for effective teaching and learning.

Keywords: *Educational Inputs, Teachers' Quality, School, academic achievement, public senior secondary schools*

INTRODUCTION

Quality education produces good learning outcomes – and the initial training and preparation of teachers contribute to this aim. It is also important to assess the distribution of quality from an equity perspective to ensure that well-trained teachers are found across diverse schools and regions. Teachers' quality encompasses a range of skills, competencies and motivation. As common sense suggests, specific training is required in order to expect quality inputs from a teacher or any other skilled professional. Data on training levels are one of the few indicators systematically collected about teachers. This highlights the need

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for better measures of teacher quality that can be used to compare countries. There are two issues that make the development of cross-nationally comparable indicators of teachers' quality difficult; availability of data and uncertainty about the measurable characteristics of effective teachers. The types of data on teachers that are most widely collected by Ministries of Education, including teachers' academic credentials and whether or not they are certified to teach, are only weakly linked to student achievement in countries where this relationship has been studied.

However, in recognition of the inestimable value of education, the Nigerian Government has adopted education as an instrument par excellence for effecting national development. Thus, education is viewed as an instrument for building a free and democratic society, a just and egalitarian society, a united strong and self-reliant nation and a great and dynamic economy (FRN, 2004). In order to attain these national aspirations, secondary schools are expected to provide quality instructions that will be oriented towards inculcating values of respect for the worth and dignity of individuals; ability to make rational decisions; moral and spiritual values in interpersonal relationship and shared responsibility for the common good of society, among others (FRN, 2004). The quality of education of any nation, to a very large extent, determines the development status of that particular nation.

Education can be regarded as the heartbeat of any nation. As a man nourishes his heart to be alive, a nation must also cater for her educational system to keep it 'alive' technologically, economically, politically, socially and otherwise to ensure quality outcome or products. The issue of quality in the educational system has been receiving a great deal of attention in the society in recent times. Parents as well as the entire society have been clamouring for quality (Nworgu, 2007). The demand for quality in education is not out of place considering the huge sum of money that goes into the system. Madumere-Obike (2003) was of the view that education consumes a lot of public revenue. Therefore, it is important to note that those who manage schools should be accountable to the stakeholders. The quality of the products of education is part of that accountability.

Education imparted through quality instruction is not only for good grades alone but also for the acquisition of the right values, skills and competencies to make an individual a useful member of the society. For education to achieve this objective, it must be of high quality, which, as Nwangwu (2000) opines, "should not only consist of passing examinations (which is usually the first priority) but also include the acquisition of skills (in the cognitive, affective and psychomotor domains) through improved schools' ability to facilitate and support the work of teachers and students". Secondary education is a very critical level of any educational system. This is because it is the bedrock on which higher education is built as the foundation of whatever a child wants to become in life academically is laid here. The implication of the above comment is that if teachers are to perform the role expected of them satisfactorily, they should be of the right calibre as well

as be adequately-trained in order to be competent in the subjects which they are expected to teach. In view of the above, and in order to improve teacher quality, efforts should be made to provide adequate and functional educational inputs for teachers. These inputs include the provision of library, distance learning programmes, in-service training, teachers' resource centres inputs, and the promotion of information and communication technology. These inputs tend to facilitate the implementation of the educational policy, the attainment of policy goals and the promotion of effectiveness of the educational system (FRN, 2004). Taking a critical look at our secondary schools in Delta State, the non-availability of these inputs has adversely affected the quality of teachers in the schools. The researcher observes that majority of the teachers are not computer-literate and they are not even in the habit of accessing the internet for new ideas about the subject they teach but rather they continue to use and repeat the same note for their students, year in, year out. The researcher also observes that many are unable to develop themselves academically but continue to quote outdated principles of teaching and use archaic or obsolete methodologies for their poor and frustrated students. The staffing position in many secondary schools has been of great concern to many researchers. The teaching personnel in Nigeria's secondary schools are not only inadequate but also professionally-unqualified (Adebayo, 2007).

Teachers are central to any consideration of schools, and a majority of education policy discussions focus directly or indirectly on the role of teachers. There is a *prima facie* case for the concentration on teachers, because they are the largest single budgetary element in schools. Moreover, parents, teachers, and administrators emphasize repeatedly the fundamental role that teachers play in the determination of school quality. Yet there remains little consensus among researchers on the characteristics of a good teacher, let alone on the importance of teachers in comparison to other determinants of academic achievement. Research related to the quality of teachers. Like many other areas where quality is important but difficult to observe, much of the evidence is indirect. Consideration of quality variation in the education sector is complicated further by the dominance of public provision of education, constraints on market operations, and the importance of non-pecuniary factors in the teacher supply decision. With public provision, schools are not necessarily operating in an efficient manner and do not necessarily make hiring decisions based on expected achievement.

The problem of poor academic achievement among public senior secondary school students is a serious issue that requires continuous and systematic investigation. A growing body of research shows that students' academic achievement is more influenced by teacher quality than by standard, race, class, academic record or the school a student attends. There has been several research studies carried out on improving teachers' quality for quality instruction but very little has been done in the area of provision of inputs that can enhance teaching and learning. Also, since one of the purposes of education is acquisition of

knowledge and skills, students' achievement after graduation can be seen as a reflection of their achievement in school. This also borders on the quality of human and material resources which are available during their schooling. For many years, educators and researchers have debated on which school variables influence students' achievement. As policy-makers become more involved in school reform, greater attention is given to the role teacher quality plays in students' achievement. The government has stated that no education system can rise above the quality of its teachers (Leving, 2002).

There has also been persistent outcry from educational unions, parents and concerned individuals about poor provision of facilities that provide essential inputs for teaching and learning as well as their utilization. The genuineness of this outcry is depicted by the progressive poor achievement of students in examination as earlier mentioned. Although several attempts have been made at improving teacher quality and teaching facilities, these efforts have not been proportionately reflected in students' overall achievement. Rather, such attempts have only sustained the highly bookish curriculum inherited from the colonial masters and made the educational system consumptive rather than productive. Therefore, there is the need for teachers to acquire enough skills to make them relevant technologically. Also, the relevance and adequacy of educational inputs and their effective utilization to students' academic achievement cannot be overemphasized. Thus, the specific problem of this study centres around investigating the extent to which provision, utilization and maintenance of educational inputs can influence teachers' quality and in turn influence students' academic achievement in Delta State public secondary schools as a system in Nigeria. Premised on the above, the following hypotheses were formulated to guide the study.

- H₀1. There is no significant difference between educational inputs and teacher quality on students academic achievement in public secondary schools in Delta State.
- H₀2. There is no significant difference between educational inputs and teacher years of experience on students' academic achievement in public secondary schools in Delta State.
- H₀3. There is no significant difference between educational inputs and teachers' quality on students' academic achievement in urban public secondary schools in Delta State.

The System Theory and the School System

The System Theory, the origin of the term "system" can be traced to Aristotle (384-385 B.C.) who argues that the whole is greater than the sum of its parts (Muriel, 1995). Simply put, a system is the collection of interrelated parts which form a whole. It is not adequate to understand just the parts which constitute the whole; it is also essential to understand the interrelationship among parts. System

theory rests on the fact that each of the component parts performs a specific function for the survival of the whole. There are two types of systems: closed and open. Closed systems are completely self-supporting and do not interact with their environment. An open system interacts with its environment. However, both rely on the environment for supply of inputs and for the discharge of their outputs. An education system or a school system depends on the environment for sustenance. They collect inputs from their environment and discharge outputs to their environment, the main features of an open system are:

1. To obtain inputs and energy from the environment.
2. To process this input to output; and
3. To discharge their output into their environment.

The open system theory has been identified to be suitable for this study as it can be used to describe and explain the inflow of inputs from the environment to teachers and students through the system and back into the environment. The transformation takes place when these inputs are organized and activated to transform teachers' quality which in turn will transform the student. These processing activities enable the system to yield outputs which can fulfill system aspiration and expectation. These outputs consist of all changes that the school system has produced; that is, the product of the system. Over the past years, much has been said and written about the falling standard and quality of education in Nigeria. This attention is traceable to the output of various institutions of learning due to the quality of their products.

Quality of education comes as a result of an improvement in the environment in which the learner works with the aid of learning provided for that purpose by the school system (Osindeinde, 2000). From these definitions, it is possible to know when the quality of education improves. In other words, there will be a qualitative change in the attitude of learners. Various studies have viewed the school as a unit of production which involves input, through-put (process) and output. This is evident as education is seen as a powerful tool for economic development. In order to measure the quality of the system, especially its products, there is absolute need for assessment procedures that are germane to the system.

It is a fact that examination serves a number of purposes. Adesina (1990) opines that "evaluation must be made with the avowed purposes of the school in mind". This assertion poses some problems since purposes should be stated in terms of achievable targets. Learners in virtually all schools take public examinations at the end of their schooling for scholastic purposes. It is pertinent to note that examination plays an important role in the development of any country. The quality and the effectiveness of the school system at all levels depend on the achievement of the learners or products. This has led to the barrage of criticism that the quality of education has fallen. In Nigeria, academic achievement of learners is used as a yardstick for measuring the quality of standard of education.

In any school system, the inputs are the learners, instructional staff and

materials. Research indicates that availability of teaching materials is as important as the teachers. An inspection of the educational system will reveal a good number of teachers who are not professionally-qualified to teach. Many of these teachers are highly deficient in the subjects they teach (Ezewu, 1996). Also, experience has shown that non-supply or inadequate supply of textbooks does constitute great problems in our system. Where there are books, they are outdated or obsolete with wrong information. Many teachers are not computer-literate and computers are not within the reach of students. Talking about libraries, it has become a thing of the past. Many of our secondary schools have no libraries. Even in some of our higher institutions of learning, especially the state-owned, those that have libraries have no new books relevant to current situation.

It is therefore glaring that the inputs into our educational system are inadequate, especially in terms of material and instructional support. Availability of teaching materials is as important as the teachers. Teachers cannot do anything in isolation; inputs into our educational system are not adequate when the lives of teachers are not motivated for improvement. Therefore, enough instructional materials and the provision of educational inputs should be provided for teachers. This will go a long way in improving the quality of education in Nigeria.

Educational inputs and the Quality of Teacher and Students

The introduction of necessary inputs into a production set the stage for conversion of these inputs into desired products. When teachers are exposed to some innovative inputs like library inputs, I.T. inputs, in-service training, education resource inputs and regular supervision of instruction, they become exposed, dynamic, innovative, current, able to project and forecast. If examination results at the end of an educational programme determine the standard of education, then the way the teaching process is handled needs reform. Attitude, discipline and effective curriculum constitute school factors while effective instructional leadership and school timing are environmental factors. The third stage of the process is instructional time, pedagogical factors and learners' participation. All these factors are viable for achieving good academic achievement.

Several studies, including Chubbs and Moe (1990), Shann (1990) and Leving (2002) found that there is a positive correlation between the attitude of teachers and quality of education. It has also been discovered that there is a positive correlation between school quality and the motivation received by teachers in schools. Motivation in form of in-service training, provision of computers in schools and exposing teachers to internet inputs will go a long way in improving teacher quality. In other words, school quality is increased when teachers have self-confidence which these inputs tend to build to teach their subject-matter.

Ascertaining the output of an educational system might attest to the Herculean nature of the system. Generally, it is believed that there is a correlation between the quality of an educational system and public examinations. The main

products of an educational system are the learners which are determined on their individual accomplishment in public examinations. Results from such examinations assist in improving teaching strategies and curriculum. According to the Lexicon Webster's Dictionary (1999) quality is a grade, a degree of excellence, especially a high degree of goodness or worth. Therefore quality can be said to be an agreed level of goods and inputs. Muriel (1995) opines that quality concept is based on the premise that people will take a greater interest in and improve the productivity of their work if they can become more involved in the decision-making process. In this way the workers improve both their self-image and their working environment.

In the same vein, Oakland (2006) posit that "quality is the totality of features and characteristics of a product of service that bear on its ability to satisfy stated or implied needs". Quality can then be said to mark a level of acceptance or satisfied excellence of teaching/learning process in the school. Ejiofor and Aniagoh (1994) explain that "the quality of personnel determines the products and inputs they render; no organization can rise above the quality of its staff; without personnel, all other factors of production will remain in their natural untapped state". It is therefore imperative that all products and inputs should possess a high quality in order to appease the would-be customers (learners), stand the test of time and also produce the expected results. Like personnel in other fields of human endeavour, teachers in schools who are at the center of learning are equally expected to possess the desirable personal and professional qualities that will enable them perform well and achieve the aims and objectives of education as spelt out in the National Policy on Education. Since education has been identified as one of the important keys that unlock the door of success in life, it therefore implies that the teacher is the person that holds the key to modernization. He can also be described as a person that imparts knowledge, a director of learning, an instructor, a disciplinarian, a pace-setter, an evaluator and a judge (Abdulkareem, 2000).

The quality of education of any nation to a very large extent determines the development status of the particular nation. Education can be regarded as the heartbeat of any nation. As a man nourishes his heart to be alive, a nation must also cater for her educational system in order to keep alive technologically, economically, politically and socially and to also ensure quality products (graduates). The Nigerian Philosophy of Education and the National Educational goals implicitly aim at the production of quality graduates (FRN, 2004). The attainment of these goals can only be realized by providing quality instruction for students. The issue of quality in the educational system has been gaining great awareness in the society in recent times. Parents as well as the entire society clamour for quality. The demand for quality in education is not out of place considering the huge sum of money that goes into the system. Madumere-Obike

(2003) is of the view that education consumes a lot of public revenue.

In the Nigerian school system, teachers' quality could be examined in various ways. It could be examined in terms of teachers' qualification and teachers' competence (Akinwumiju, 1995). It could also be examined in terms of teacher's status, teachers' teaching experience and teachers' dedication to duty (Adeyemi, 2007). It could as well be examined in terms of teacher's integrity and teachers' job achievement (Wilson and Pearson, 1993; Ayodele, 2000). In this regard, the teaching force seems to be a major variable in determining the quality of a school system. Teachers as one of the inputs into the educational process constitute an important aspect in pupils' learning. Considering this point, Umeasiegbu (1991) argues that "the level of achievement in any school is intimately related to the quality of its teachers" while "the quality of any school system is a function of the aggregate quality of teachers who operate it."

The moral standing of a teacher also determines to a large extent the quality of the students. While some teachers may lead the students astray because of wrong advice, others lead them aright because of the quality of advice given to them. This goes to say that in practice, a teacher does not only teach the course he specializes, but also constitute himself a counselor and an adviser. These put together garnishes the quality of the students who are coming to learn from the experience of their teachers. Therefore, the length of teaching experience of a teacher has been an important factor determining how effectively the teaching-learning process in a school has been achieved. The importance of experienced teachers in schools has been highlighted by many researchers (Akinleye, 2001; Commeyras, 2003). Different opinions abound about teaching experience and pupils' learning outcomes in schools. Some arguments were based on the fact that experience improves teaching skills while pupils' learn better at the hands of teachers who have taught them continuously over a period of years. Teachers' integrity seems to be another variable of teacher quality in the school system. As such, how a teacher conducts himself or herself effectively in a school system is a function of his or her integrity (Chandon 2000; Uyo, 2004).

In the same vein, teachers' job achievement is another variable that could determine teacher quality in a school system. It refers to the actions of the teacher in performing certain jobs or duties in the school. It is the totality of the input of the teacher towards the attainment of educational objectives (Ajayi, 2005; Olorunsola, 2010). It is the act of accomplishing a given task in a school organization. It could be measured through the level of teachers' competency in subject matter, lesson note preparation, content covered, level of coverage of scheme of work, lesson presentation, monitoring of pupils work, effective supervision, effective leadership and the disciplinary ability of the teacher (Adeyemi, 2008). Notwithstanding the aforementioned variables of teachers' quality, how teachers have been performing their job effectively in relation to the internal efficiency of the school system has been a matter of concern to stakeholders

in education (Olubor, 2004).

Olutola (2009) finds out that there is a positive relationship between teachers' qualifications and students' academic achievement. In a related development, the effect of qualifications on group achievement was found to be significant at 0.001 level. Same (2000) observes that the utilization of unqualified and under-qualified educators in South Africa impacts negatively on the quality of teaching with its implications on achievement. In the United States, many empirical studies have been conducted to identify the characteristics of teacher quality that are associated with higher student achievement. Several syntheses of these studies have identified teacher certification, subject matter, knowledge, pedagogical knowledge and teaching experience as significantly associated with higher student achievement or greater achievement gains (Darling-Hammond and Youngs, 2002).

Darling-Hammond (2000) conducted a state-level analysis using the National Assessment of teachers with full certification and the percentage of teachers with a subject major predicted higher state-level achievement in both Mathematics and reading. Contrary to these studies, Rowan, Correnti and Miller (2002) found that subject-specific certification had no significant impact on elementary school students' achievement growth in Mathematics or reading based on an analysis of survey from prospects. These empirical studies seem to suggest that teachers' certification matters in secondary schools but not in elementary schools. Subject-matter knowledge and pedagogical knowledge have been measured by various indicators: subject major, number of courses taken and National Teachers Examination (NTE) scores.

Teachers' Qualification and Students' Academic Achievement in Secondary Schools

The policy issue at the heart of this article relates to the need to ensure the presence of "highly qualified teachers in every classroom" and to determine how best to define and prepare these "qualified" teachers. Quality teachers are often seen simply as "good" teachers and are considered to be those who exhibit desirable traits and uphold the standards and norms of the profession. But quality teachers are also considered to be those who bring about "student learning." These teachers are called "effective" (Berliner, 1987, 2005) or "successful" (Fenstermacher and Richardson, 2005). Fenstermacher and Richardson (cited in Berliner, 2005:207) distinguish between good teaching and successful teaching as follows:

By "good teaching" we mean that the content taught accords with disciplinary standards of adequacy and completeness and the methods employed are age appropriate, morally defensible and undertaken with the intention of enhancing the learner's competence with respect to content. By "successful teaching" we mean that the learner actually acquires some reasonable and acceptable level of proficiency from what the teacher is engaged in teaching.

Because of psychometric difficulties in assessing teachers by their normative

attributes - the logical, the psychological, and (especially) the ethical, which are defined differently across cultures (Alexander, 2000) - the tendency to evaluate teacher qualities on the basis of student achievement is given even greater emphasis. After tracing the development and reform of teacher education in terms of the major questions shaping this field of education, Cochran-Smith (2001) argues that “the outcome” question is what currently motivates teachers’ education research and policy making. She set down three ways in which the outcomes of teachers’ education are constructed.

One of them, long-term impact outcomes, refers to the relationships between teachers qualifications and student learning. Teachers’ qualifications encompass teachers’ scores on tests and examinations, their years of experience, the extent of their preparation in subject matter and in pedagogy, what qualifications they hold in their area of expertise, and their ongoing professional development. Student learning is taken simply as the gain scores students attain on achievement tests. Cochran-Smith (2001) goes on to posit the relationship between teachers’ qualification and students’ learning as the percentage of variance in student scores accounted for by teachers’ qualifications when other variables are held constant or adjusted. In many countries, teacher qualifications that are considered to be related to student learning have become targets of education reform. However, the nature of this reform is under debate.

Teaching Experience and Students’ Academic Achievement in Secondary Schools

Teacher’s years of experience affects the overall achievement of his or her students, however, high-quality teachers are one of the key components in successful classrooms. There is widespread disagreement among many in the educational community about exactly what constitutes a high-quality teacher. Is it experience? Is it degree-level? Can it even be measured by a test, survey, or questionnaire? First, the various factors influencing student achievement are examined. Examples of these factors include teachers’ characteristics, credentials, environmental factors such as class size, and student factors such as background, social economic status, and home life. Second, the influence of the teacher’s degree level on student achievement is examined. Some studies indicated that a teacher’s degree level affected student achievement only at the secondary level and only if the degree was in the subject area of mathematics (Goldhaber and Brewer, 2000).

It is worth mentioning that the more experienced a teacher is, the more productive he will be in his teaching and the more likely his students will perform more brilliantly academically in their internal and external school examinations than those students taught by an inexperienced teacher. The point being emphasized is that experience and productivity are interrelated. Experience has been defined in the Longman Dictionary (2005) as knowledge or skill gained from doing a job or activity for a long time.

However, most of these researchers do not use or test other teacher variables to convince us that there is absolute un-relatedness between teaching experience and effectiveness in the classroom. One may meet principals or teachers who might have spent comparatively less number of years in training or in classroom exhibiting and employing exceedingly more brilliant administrative techniques and teaching strategies than some of their counterparts who nearly spent most part of their teaching career periods either in administrative capacity or practicing classroom teachers. From all the aforementioned discussions we can (confidently and unambiguously) state that it is possible for one to have taught for five or more years and have just one year's experience. This refers to some teachers who, despite the long years they have put into teaching, continue using and repeating the same notes for students year in, year out, and who have refused to develop themselves academically and professionally but continue to quote outdated principles of teaching and using archaic or obsolete methodologies. On the other hand, there is that teacher who has spent just five years or less in teaching but who is very innovative, dynamic, pragmatic and democratic, and who is applying and using different methods in teaching, matching methods with the current situation and circumstances, thinking ahead, projecting and forecasting for improved effective teaching and learning. This teacher can be described as an 'experienced' teacher as a result of his progressive mind.

Teachers' Attitude to the Teaching Profession and Students' Academic Achievement in Secondary Schools

The Federal Government of Nigeria, in order to mitigate the overwhelming burden of providing a quality education for its citizens gave approval for individuals, groups, and corporate bodies to establish and run private schools from nursery to university level. The public school system, which ordinarily, should have enough money to run its various activities, usually runs short of the required funds, despite the Federal Government strong financial input. Conversely, the private schools are doing relatively well, when compared with their public school counterparts. This is because the proprietors of these various private schools injected the required funds and commitments that keep the schools running and minimized bottlenecks and bureaucracies. However, attitude as a concept is concerned with an individual way of thinking, acting and behaving. It has very serious implication for the learner, the teacher, the immediate social group with which the individual learner relates and the entire school system. Attitudes are formed as a result of some kinds of learning experiences. They may also be learned simply by following the example or opinion of parents, teachers or friends. This is mimicry or imitation, which also has a part to play in the teaching and learning situation. In this respect, the learner draws from his teachers' disposition to form his own attitudes, which may likely affect his learning outcomes.

Okpala (2000) finds that the effect of teachers' attitude towards assessment

practices on students' achievement and their attitude towards Physics was positive. In the same vein, Onocha (2001) reports in one of his findings that teachers' attitude towards science is a significant predictor of science pupils' achievement as well as their attitude. Teachers' attitude towards the teaching of Mathematics plays a significant role in shaping the attitude of students towards the learning of Mathematics. Ogunniyi (2007) observes that students' positive attitude towards science can be enhanced by the following teacher related factors:

- (a) Teachers' enthusiasm;
- (b) Teachers' resourcefulness and helpful behaviour;
- (c) Teachers' thorough knowledge of the subject matter and their making science quite interesting.

To become an educated person requires the combination of several factors and processes. The teacher is the most indispensable factor in the effective administration of any education system. The importance of teacher education in the meaningful education at all levels is reflected in the National Policy on Education (2004) as it declares that no educational system may rise above the quality of its teachers. This declaration in the policy document underscores the need for teacher effectiveness in our schools. Eso (1998) conceptualizes teachers' effectiveness as the managerial skills essential for enhanced classroom control and discipline. From the literature reviewed so far and on the basis of the theoretical framework examined, it can be seen that the quality of teachers to a large extent determines the quality of students. Evidences have shown that standard of education has fallen despite the huge sum of money the government has invested in education.

Examination malpractice, moral decadence and poor job achievement are some of the indices of poor standard of the education in Nigerian secondary schools in general and schools in the Delta State in particular. The review has shown that a lot of work has been done on quality control and quality assurance and how to maintain quality in the educational system. If a teacher is academically-sound, professionally-competent and possesses good character traits, he is expected to be able to discharge his duties effectively as a teacher. Suggestions like on-the-job training for teachers as well as the provision of a conducive learning environment among others were made to aid learning. However, this study went a step further by examining the provision, utilization and maintenance of some educational inputs for teachers and students so that they will be exposed, dynamic, current, be able to think ahead, project and forecast for effective teaching and learning. This study examines other means of improving teachers' quality such as provision of educational inputs that will not only maintain teachers' quality, but also put them on the track of quality and ensure a total transformation of teachers so that they will be able to catch up with the rest of the world technologically, and make teaching and learning more exciting so as to improve the academic achievement of students in Delta State secondary schools.

METHOD

The survey design often referred to as ex-post-facto research was used, in the study. This was because the data were collected after the event had taken place, hence the name ex-post facto. It x-rayed the relationship among educational inputs, teacher quality and students' academic achievement in Delta State public secondary schools. The population of the study comprises teachers and students of senior secondary school class three (SS3) in public secondary schools in Delta State. The population of students was seventy-one thousand and eleven (71,011) who sat for the May/June 2011, 2012 and 2013 West African School Certificate Examination Council in the twenty- five (25) local government areas of Delta State. That of teachers was five hundred (500) from the twenty-five (25) local government areas of the State who taught the subjects students sat for in the May/ June certificate examination in 2011, 2012 and 2013.

Using simple random sampling technique, the researcher selected two public secondary schools in each Local Government Area. This gave a total of fifty public secondary schools. All the teachers participated in the study. The instrument used for data collection was questionnaire which was of two sections, A and B. Section A elicited responses to the following variable: name of school, location, sex, teachers' years of experience, qualifications and other relevant information on teachers' professionalism and students' academic achievement. The modified 4 point Likert scale of rating was used:

Strongly Agree (SA)	=	4 Points
Agree (A)	=	3 Points
Disagree (D)	=	2 Points
Strongly Disagree (SD)	=	1 Point

Section B, was a standardized test instrument also titled "West African School Certificate Examination Standardized Test Instrument" (WASCESTI). The standardized instrument was the result of students for Mathematics and English Language used for the Year 2011, 2012, and 2013, West African School Certificate Examinations. These results were the students' academic achievement obtained from the office of West African Examinations Council, Asaba, Delta State.

The researcher constructed relevant questions which were validated to establish Face and Content validity. These questions were vetted objectively by the researcher's supervisor, three experts in the field of educational research in the Department of Measurement and Evaluation. Corrections were made before the instrument was administered to the sample. To establish the reliability of the instrument, the test-retest method of determining reliability co-efficient was used in order to test the reliability of the instrument. The test – re- test method of the reliability check was employed with a one week retest interval using 20 respondent not included in the sample of the study. The Pearson (r) statistic was used to compute the reliability co-efficient and the value obtained was 0.98. This showed

that the instrument measured what it intends to measure and therefore reliable. The instrument was personally administered by the researcher in the various secondary schools sampled for the study. The investigator ensured that each of the respondents filled the questionnaire on his/her own without help from others. The five hundred (500) copies of questionnaire distributed to the teacher were retrieved. The simple percentage was used to analyse the data collected for the study, while the hypotheses formulated to guide the study were tested for significant difference using the z-test statistics for independent samples at 0.05 level of significance and Chi-square statistical tool.

RESULTS AND DISCUSSION

Table 1 shows that the Z-test calculated value of 17.923 was greater than the Z critical value of 1.96 at 0.05 level of significance; hence the hypothesis that there is no significant difference between educational inputs, teachers' quality and students academic achievement in public secondary schools in Delta State was rejected. This shows that educational inputs and teachers' quality have positive impact on students' academic achievement of public secondary school with regard to the West African School Certificate Examinations in Delta State. This implies that where there is crack in provision of educational inputs and poor quality of teachers, there is bound to be poor performance. Ejemba (2000) opines that public schools show nonchalant attitude towards work and moral upbringing of the children and this affects their academic achievement. This finding was also upheld by Okochi (2013) when he opines that private secondary schools in Delta State performed better academically than public secondary schools.

Table 2 shows that the chi-square calculated value of 78.18 was greater than the critical value of 7.82 at 0.05 level of significance; hence the hypothesis that there is no significant difference between educational inputs, teacher years of experience and students' academic achievement in public secondary schools in Delta State was rejected. Teacher years of experience favoured public secondary schools. The finding agrees with the earlier findings of Akiri (2013) who observes that the effect of teachers' experience in students learning have a positive relationship between teachers' qualification and their years of experience. Table 3 shows that the calculated Z value 12.980 was greater than the table critical value of 1.96 at 0.05 level of significance; hence the hypothesis that there is no significant difference between educational inputs, teacher quality and students' academic achievement in urban public secondary schools in Delta State was rejected. This shows that there was a significant difference as well as impact between educational inputs and teachers' quality on students' academic achievement in West African School Certificate Examination in Delta State.

Educational inputs refer to the services available for teachers to improve their quality and promote teachers' effectiveness in the school system, while

teachers' quality is a degree of excellence especially as it relates to high level of competency and worth of teachers. Alatu and Eraikhuemen (1999) supported the above view when they opine that urban private secondary school performed academically better than urban public secondary schools in Edo State. The findings of this study indicate that there is significant impact and difference between educational inputs, teacher quality and students academic achievement in public secondary schools in Delta State; that there is significant impact and difference between educational inputs, teacher years of experience and students' academic achievement in public secondary schools in Delta State. Public secondary schools teachers show a higher degree of teacher years of experience. However, there is significant impact and difference between educational inputs, teachers' quality and students' academic achievement in urban public secondary schools in Delta State.

Table 1: Z-test Analysis of Significant Difference in the Academic Achievement of Students in Public Secondary Schools who sat for the May/June 2011-2013 WASCE

Source of validity	N	Mean	SD	Df	Level of Significance	Cal Z Value	Critical Z Value	Decision
Public	7333	52.43	11.3	142.9	0.05	17.923	1.96	Significance H_0 rejected

Source: Field Survey, 2016

Table 2: Chi-square Analysis of Significant Difference Teacher Years of Experience in Public Secondary School in Delta State

Teacher Years of Experience	Public	Total	Df	X ² Crit. Value	X ² Cal. Value	Decision
1 – 5	40	100	3	7.82	78.18	Significance Rejected
6 – 8	115	187				
9 -10	105	136				
10 and Above	140	157				
Total	500	780				

Source: Field Survey, 2016

Table 3: Z-test Analysis of the Significant Difference in the Academic Achievement of Urban Public Secondary School Students who were Taught by their various Teachers for WASCE in Delta State

Source of validity	N	Mean	SD	Df	Level of Significance	Cal Z Value	Critical Z Value	Decision
Urban Public	2724	50.61	10.47	6422	0.05	12.980	1.96	Significance rejected H_0 3

Source: Field Survey, 2016

CONCLUSION AND RECOMMENDATIONS

The findings of this study have clearly shown that the success of an academic programme is largely determined by the relationship between the inputs and the corresponding outputs. Inputs into the education system include library inputs, in-service training and re-training programmes for teachers, supervision of instruction, computer inputs and provision of education resource centre inputs for teachers; all these will no doubt determine teachers' quality. These positive impacts on the teachers would definitely have a corresponding positive impact on the students' academic achievement. The ultimate conclusion is that the provision of educational inputs for teachers in public senior secondary schools in Delta State, Nigeria was grossly inadequate. It is very clear that the teachers' quality would have improved if the situation were different. Lack of these essential inputs had contributed immensely to teachers' poor achievement and hence students' consistent failures in their examinations. On the basis of the findings of this study, the following recommendations were made:

1. Old students' associations, philanthropists, communities and well meaning individuals in the society should assist in the provision of essential educational inputs like libraries and computer laboratories for effective teaching and learning.
2. Acquisition of computer skills should be the basis for promotion for secondary school teachers.
3. Periodic review of remuneration of teachers should be given top priority but it must be based on teachers' and students' achievement.
4. The curriculum of teacher education programme should also be reviewed to include computer theory and practice.

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